CLAIMS

1. A method of forecasting a staffing requirement necessary to handle forecasted contacts received of a contact type, the method comprising the steps of:

        propagating the forecasted contacts received in proportion to a propagation value assigned to each of a predetermined number of periods; and

        forecasting the staffing requirement necessary to handle the propagated forecasted contacts received.

2. The method of Claim 1, wherein the propagation values are assigned to achieve at least one of a front-weighted curve, a back-weighted curve, a bell curve, flat curve, a multi-level service goal, an average speed of answer, and a custom distribution.

3. The method of Claim 1, wherein the step of propagating the forecasted contacts received further comprises:

        determining which periods can receive allocations for the contact type, each period being assigned a propagation value; and

        allocating the forecasted contacts received to the current period by the substeps of:

            summing the propagation values from each period that can receive allocations;

            calculating "contacts to propagate from the past period" as the product of the forecasted contacts received for the past period and a service goal for the past period;

calculating "contacts to propagate to the current period" as the product of the "contacts to propagate from the past period" and the quotient of the propagation value of the current period divided by the sum of propagation values; and

allocating the "contacts to propagate to the current period" to the current period.

4. The method of Claim 1, wherein the step of calculating the staffing requirement for the current period is performed with reference to "ContactsHandled," "AHTinSeconds," and "SecondsInStatPeriod."

5. The method of Claim 1, wherein the step of calculating the staffing requirement for the current period is performed according to the equation:

$$\text{Staffing Requirement} = \left(\frac{\text{ContactsHandled x AHTinSeconds}}{\text{SecondsInStatPeriod}} \right)$$

wherein:

"ContactsHandled" is equivalent to the "contacts to propagate to the current period";

"AHTinSeconds" is the average handling time for the contact type; and

"SecondsInStatPeriod" is the length in seconds of the current period.

6. The method of Claim 5, wherein the staffing requirement is further divided by the quotient of a maximum occupancy goal percent divided by 100.

7. A method of forecasting a staffing requirement necessary to handle forecasted contacts received of a contact type, the method comprising the steps of:

determining whether the contact type is an immediate

5   contact type or a non-immediate contact type;

upon a determination that the contact type is an immediate contact type, calculating the staffing requirement in order to resolve the forecasted contacts within a predetermined amount of time;

10   and

upon a determination that the contact type is a non-immediate contact type, calculating the staffing requirement by performing the substeps of:

propagating the forecasted contacts received in

15   proportion to a propagation value assigned to each of a predetermined number of periods; and calculating the staffing requirement necessary to handle the propagated forecasted contacts received.

20   8. The method of Claim 7, wherein the propagation values are assigned to achieve at least one of a front-weighted curve, a back-weighted curve, a bell curve, flat curve, a multi-level service goal, an average speed of answer, and a custom distribution.

25   9. The method of Claim 7, wherein the step of propagating the forecasted contacts received further comprises:

determining which periods can receive allocations for the contact type, each period being assigned a

30   propagation value; and

- 21 -

allocating the forecasted contacts received to the current period by the substeps of:

summing the propagation values from each period that can receive allocations;

5   calculating "contacts to propagate from the past period" as the product of the forecasted contacts received for the past period and a service goal for the past period;

calculating "contacts to propagate to the

10   current period" as the product of the "contacts to propagate from the past period" and the quotient of the propagation value of the current period divided by the sum of propagation values; and

15   allocating the "contacts to propagate to the current period" to the current period.

10. The method of Claim 7, wherein the step of calculating the staffing requirement for the current 20 period is performed with reference to "ContactsHandled," "AHTinSeconds," and "SecondsInStatPeriod."

11. The method of Claim 7, wherein the step of calculating the staffing requirement for the current period is performed according to the equation:

25

$$\text{Staffing Requirement} = \left(\frac{\text{ContactsHandled x AHTinSeconds}}{\text{SecondsInStatPeriod}} \right)$$

wherein:

"ContactsHandled" is equivalent to the "contacts to propagate to the current period";

"AHTinSeconds" is the average handling time for the contact type; and

"SecondsInStatPeriod" is the length in seconds of the current period.

12.   The method of Claim 11, wherein the staffing requirement is further divided by the quotient of a maximum occupancy goal percent divided by 100.

13.   A method for determining the total, non-immediate, multimedia contacts in a period within a range, comprising, for each contact type and for each period in the range, wherein the period is a current period and each period which precedes the current period is a past period, the step of determining whether the current period can receive allocations and, upon a determination that the current period can receive allocations, performing for each past period affecting the current period the substeps of:

calculating a "total contacts to propagate from past period" as the product of a forecasted "contacts received" from the past period and a "service percent" for the past period;

calculating a "contacts propagated to current period" as the product of the "total contacts to propagate from past period" and the quotient of a propagation value of the current period divided by the sum of propagation values for all periods affected by the past period; and

summing the "contacts propagated to current period" into the "total contacts to handle in current period" for all contact types.

14. An apparatus for forecasting a staffing requirement necessary to handle forecasted contacts received of a contact type, the apparatus comprising:

means for propagating the forecasted contacts

5   received in proportion to a propagation value assigned to each of a predetermined number of periods; and

means for forecasting the staffing requirement necessary to handle the propagated forecasted

10   contacts received.

15. The apparatus of Claim 14, wherein the propagation values are assigned to achieve at least one of a front-weighted curve, a back-weighted curve, a bell curve, flat curve, a multi-level service goal, an average

15   speed of answer, and a custom distribution.

16. The method of Claim 14, wherein the means for propagating the forecasted contacts received further comprises:

means for determining which periods can receive

20   allocations for the contact type, each period being assigned a propagation value; and

means for allocating the forecasted contacts received to the current period, comprising:

means for summing the propagation values from

25   each period that can receive allocations;

means for calculating "contacts to propagate from the past period" as the product of the forecasted contacts received for the past period and a service goal for the past period;

means for calculating "contacts to propagate to
the current period" as the product of the
"contacts to propagate from the past period"
and the quotient of the propagation value of
5   the current period divided by the sum of
propagation values; and
means for allocating the "contacts to propagate
to the current period" to the current period.

17. The apparatus of Claim 14, wherein the means
10   for calculating the staffing requirement for the current
period is performed with reference to "ContactsHandled,"
"AHTinSeconds," and "SecondsInStatPeriod."

18. The apparatus of Claim 14, wherein the means
for calculating the staffing requirement for the current
15   period is performed according to the equation:

$$\text{Staffing Requirement} = \left(\frac{\text{ContactsHandled} \times \text{AHTinSeconds}}{\text{SecondsInStatPeriod}} \right)$$

wherein:
"ContactsHandled" is equivalent to the "contacts to
propagate to the current period";
20   "AHTinSeconds" is the average handling time for the
contact type; and
"SecondsInStatPeriod" is the length in seconds of
the current period.

19. The apparatus of Claim 18, wherein the staffing
25   requirement is further divided by the quotient of a
maximum occupancy goal percent divided by 100.

20. An apparatus for forecasting a staffing requirement necessary to handle forecasted contacts received of a contact type, the apparatus comprising:

means for determining whether the contact type is an

5   immediate contact type or a non-immediate contact type;

upon a determination that the contact type is an immediate contact type, means for calculating the staffing requirement in order to resolve the

10   forecasted contacts received within a predetermined amount of time; and

upon a determination that the contact type is a non-immediate contact type, means for calculating the staffing requirement comprising:

15   means for propagating the forecasted contacts received in proportion to a propagation value assigned to each of a predetermined number of periods; and

means for calculating the staffing requirement

20   necessary to handle the propagated forecasted contacts received.

21. The apparatus of Claim 20, wherein the propagation values are assigned to achieve at least one of a front-weighted curve, a back-weighted curve, a bell

25 curve, flat curve, a multi-level service goal, an average speed of answer, and a custom distribution.

22. The apparatus of Claim 20, wherein the means for propagating the forecasted contacts received further comprises:

means for determining which periods can receive allocations for the contact type, each period being assigned a propagation value; and

means for allocating the forecasted contacts

5   received to the current period comprising:

means for summing the propagation values from each period that can receive allocations;

means for calculating "contacts to propagate from the past period" as the product of the

10   forecasted contacts received for the past period and a service goal for the past period;

means for calculating "contacts to propagate to the current period" as the product of the "contacts to propagate from the past period"

15   and the quotient of the propagation value of the current period divided by the sum of propagation values; and

means for allocating the "contacts to propagate to the current period" to the current period.

20   23. The apparatus of Claim 20, wherein the means for calculating the staffing requirement for the current period is performed according to the equation:

$$\text{Staffing Requirement} = \left(\frac{\text{ContactsHandled x AHTinSeconds}}{\text{SecondsInStatPeriod}} \right)$$

wherein:

25   "ContactsHandled" is equivalent to the "contacts to propagate to the current period";

"AHTinSeconds" is the average handling time for the contact type; and

"SecondsInStatPeriod" is the length in seconds of
the current period.

24.   The apparatus of Claim 25, wherein the staffing
requirement is further divided by the quotient of a

5   maximum occupancy goal percent divided by 100.

25.   An apparatus for calculating the total, non-
immediate, multimedia contacts in a period within a
range, comprising, for each contact type and for each
period in the range, wherein the period is a current

10   period and each period which precedes the current period
is a past period, the apparatus comprising means for
determining whether the current period can receive
allocations and, upon a determination that the current
period can receive allocations, for each past period

15   affecting the current period:

means for calculating a "total contacts to propagate
from past period" as the product of a forecasted
"contacts received" from the past period and a
"service percent" for the past period;

20   means for calculating a "contacts propagated to
current period" as the product of the "total
contacts to propagate from past period" and the
quotient of a propagation value of the current
period divided by the sum of propagation values

25   for all periods affected by the past period; and
means for summing the "contacts propagated to
current period" into the "total contacts to handle
in current period" for all contact types.

- 28 -

26. A computer program product for forecasting a staffing requirement necessary to handle forecasted contacts received of a contact type, the computer program product having a medium with a computer program embodied thereon, the computer program comprising:

    computer program code for propagating the forecasted contacts received in proportion to a propagation value assigned to each of a predetermined number of periods; and

    computer program code for calculating the staffing requirement necessary to handle the propagated forecasted contacts received.

27. The computer program product of Claim 26, wherein the propagation values are assigned to achieve at least one of a front-weighted curve, a back-weighted curve, a bell curve, flat curve, a multi-level service goal, an average speed of answer, and a custom distribution.

28. The computer program product of Claim 26, wherein the computer program code for propagating the forecasted contacts received further comprises:

    computer program code for determining which periods can receive allocations for the contact type, each period being assigned a propagation value; and

    computer program code for allocating the forecasted contacts received to the current period comprising:

        computer program code for summing the propagation values from each period that can receive allocations;

computer program code for calculating "contacts to propagate from the past period" as the product of the forecasted contacts received for the past period and a service goal for the past period;

computer program code for calculating "contacts to propagate to the current period" as the product of the "contacts to propagate from the past period" and the quotient of the propagation value of the current period divided by the sum of propagation values; and

computer program code for allocating the "contacts to propagate to the current period" to the current period.

29. The computer program product of Claim 26, wherein the computer program code for calculating the staffing requirement for the current period is performed according to the equation:

$$\text{Staffing Requirement} = \left(\frac{\text{ContactsHandled x AHTinSeconds}}{\text{SecondsInStatPeriod}} \right)$$

wherein:

"ContactsHandled" is equivalent to the "contacts to propagate to the current period";

"AHTinSeconds" is the average handling time for the contact type; and

"SecondsInStatPeriod" is the length in seconds of the current period.

30. The computer program product of Claim 29, wherein the staffing requirement is further divided by the quotient of a maximum occupancy goal percent divided by 100.

5   31. A computer program product for forecasting a staffing requirement necessary to handle forecasted contacts received of a contact type, the computer program product having a medium with a computer program embodied thereon, the computer program comprising:

10   computer program code for determining whether the contact type is an immediate contact type or a non-immediate contact type;

upon a determination that the contact type is an immediate contact type, computer program code for

15   calculating the staffing requirement in order to resolve the forecasted contacts received within a predetermined amount of time; and

upon a determination that the contact type is a non-immediate contact type, computer program code for

20   calculating the staffing requirement comprising:

computer program code for propagating the forecasted contacts received in proportion to a propagation value assigned to each of a predetermined number of periods; and

25   computer program code for calculating the staffing requirement necessary to handle the propagated forecasted contacts received.

32. The computer program product of Claim 31, wherein the propagation values are assigned to achieve at least one of a front-weighted curve, a back-weighted curve, a bell curve, flat curve, a multi-level service

5   goal, an average speed of answer, and a custom distribution.

33. The computer program product of Claim 31, wherein the computer program code for propagating the forecasted contacts received further comprises:

10   computer program code for determining which periods can receive allocations for the contact type, each period being assigned a propagation value; and

computer program code for allocating the forecasted contacts received to the current period

15   comprising:

computer program code for summing the propagation values from each period that can receive allocations;

computer program code for calculating "contacts to propagate from the past period" as the product of the forecasted contacts received for the past period and a service goal for the past period; and

computer program code for calculating "contacts

25   to propagate to the current period" as the product of the "contacts to propagate from the past period" and the quotient of the propagation value of the current period divided by the sum of propagation values.

34. The computer program product of Claim 31, wherein the computer program code for calculating the staffing requirement for the current period is performed according to the equation:

$$\text{Staffing Requirement} = \left(\frac{\text{ContactsHandled x AHTinSeconds}}{\text{SecondsInStatPeriod}} \right)$$

wherein:

"ContactsHandled" is equivalent to the "contacts to propagate to the current period";

"AHTinSeconds" is the average handling time for the contact type; and

"SecondsInStatPeriod" is the length in seconds of the current period.

35. The computer program product of Claim 34, wherein the staffing requirement is further divided by the quotient of a maximum occupancy goal percent divided by 100.

36. A computer program product for calculating the total, non-immediate, multimedia contacts in a period within a range, for each contact type and for each period in the range, wherein the period is a current period and each period which precedes the current period is a past period, the computer program product having a medium with a computer program embodied thereon, the computer program comprising:

computer program code for determining whether the current period can receive allocations and, upon a determination that the current period can receive

allocations, performing for each past period affecting the current period:

computer program code for calculating a "total contacts to propagate from past period" as the product of a forecasted "contacts received" from the past period and a "service percent" for the past period;

computer program code for calculating a "contacts propagated to current period" as the product of the "total contacts to propagate from past period" and the quotient of a propagation value of the current period divided by the sum of propagation values for all periods affected by the past period; and

computer program code for summing the "contacts propagated to current period" into the "total contacts to handle in current period" for all contact types.